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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/617,310      | 07/14/2000  | Hiroshi Narai        | Q60136              | 8380             |

7590 07/25/2002

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| EXAMINER |
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JOYCE, WILLIAM C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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3682

DATE MAILED: 07/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

SA

**Office Action Summary**

Application No.

09/617,310

Applicant(s)

NARAI ET AL.

Examiner

William C. Joyce

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This office action is in response to the amendment filed May 9, 2002 for the above identified patent application.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification does not appear to describe the non-metallic inclusion formed in the rolling member as being greater than .01mm.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 13 and 14, line 2, the term "a non-metallic inclusion" is unclear as to whether applicant is referencing the inclusion defined in claim 1. Examiner suggests changing the limitation to --said non-metallic inclusion--.

b. Claims 13 and 14, the limitation "between greater than" (line 3) is awkwardly worded making the limitation unclear. Examiner suggests deleting the term "between".

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 3, 4, 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Okubo et al. (US Patent 6,113,514).

Okubo et al. discloses a manufacturing procedure for producing a disk for a toroidal continuously variable transmission. Referring to column 2, lines 37-43, Okubo et al. discloses that the size of non-metallic inclusions are known to influence the strength of a material with respect to repeated bending stress. The manufacturing

procedure of Okubo et al. prevents non-metallic inclusions of high density from being present within a predetermined distance 1.5b of the traction surface, wherein a high density inclusion is .01mm or larger (for example, see column 5, lines 43-48). Examiner notes that the predetermine distance 1.5b is considered to fall within the limitation .4mm or less. In reference to Okubo et al., if you consider the outer layer of the traction surface to have an infinitely small depth, the outer layer would not contain any high density non-metallic inclusions and would be positioned less than .4mm from the traction surface.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al. (US Patent 6,113,514).

As described above, Okubo et al. teaches that the size of non-metallic inclusions present in a rolling member and the location of non-metallic inclusions within the rolling member are known to influence the strength of the rolling member with respect to repeated bending stress. More specifically, Okubo et al. teaches increasing the durability of the rolling member by preventing non-metallic inclusions of high density from being present within a predetermined distance 1.5b of the traction surface, wherein

a high density inclusion is .01mm or larger. It is understood the opposite of the above teachings hold true, in that a rolling member having non-metallic inclusions larger than .01mm will produce a less durable rolling member. Further, a manufacturing engineer in the art would recognize that producing a rolling member having non-metallic inclusions of .01mm or less, as taught by Okubo et al., would increase manufacturing waste and the cost of production.

It would have been obvious to an engineer in the art at the time the invention was made to manufacture the rolling member of Okubo et al. with non-metallic inclusions of .015mm, motivation being to reduce the manufacturing costs of the rolling member while providing sufficient durability of the rolling member for a given application.

9. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitamura et al. (US Patent 5,855,531) in view of Japanese Reference 06-287710 ('710).

Mitamura et al. discloses a toroidal continuously variable transmission having an input disc, an output disc, and roller bearings. Mitamura et al. does not disclose the discs or the bearings having a layer formed at .4 mm or less from a surface, wherein the layer does not contain a non-metallic inclusion having a maximum diameter of 0.115mm or more. However, Japanese Reference '710 teaches forming rolling bearings from steel and not having a non-metallic inclusion greater than .008mm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the transmission of Mitamura et al. with rolling bearings formed from a steel and not

having a non-metallic inclusion greater than .008mm, as taught by Japanese Reference '710, motivation being to increase the durability of the bearings of the transmission.


***Response to Arguments***

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (703) 305-5114. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on (703) 308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

  
William C. Joyce  
July 18, 2002